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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/631,320 | 07/31/2003 | Charles Edward Bowers | 30-4397DIV2 | 1906 |

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| EXAMINER |
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YAO, SAMCHUAN CUA

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| ART UNIT | PAPER NUMBER |
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1733

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/631,320 | Applicant(s) BOWERS, CHARLES EDWARD | |
| | Examiner Sam Chuan C. Yao | Art Unit 1733 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12-22-03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 29 is objected to because of the following informalities: "dying" should be replaced with --dyeing--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/14408 A1.

WO '408 discloses a process of making a yarn with a thermally activating binder material, the process comprises providing a continuous bundle of synthetic or natural base fibers; providing a wrapper yarn comprising a blend of heat-activated binder fibers and non-adhesive fibers; ring or wrap spinning the bundle of synthetic base fibers and the wrapper yarn to form a blended yarn; sufficiently heating the blended yarn to melt the binder fibers; and, then cooling the heat-treated yarn to solidify the heat-activated binder fibers (examples 3-4; see page 3 lines 21-31 and claim 16 for heat-treating/heat-setting a "*wrapped singles yarn*"). See example 1 on page 6 for the melting temperature range for base fibers and binder fibers; and on page 4 lines 19-21 and page 6 12-14 for a dyeing and finishing step.

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It is acknowledge that, WO '408 teaches forming plied yarns (i.e. a pair of singles yarns are plied together), before the yarns are used as tufting yarn for making a loop-pile or cut-pile carpet. (page 4 full paragraph 1, pages 6 & 9). However, the recited "*incorporating*" step in this claim is taken to read on forming a plied twisted yarn from a pair of wrapped singles yarns, and then tufting the plied twisted yarn to a carpet backing. For this reason, this claim as presently recited fails to define over WO '408.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/14408 A1 in view of either (Perrig (4,147,508) or JP 2300340 A)) and optionally further in view of Scott (4,668,552).

The discussion of the WP '408 patent in numbered paragraph 3 above is incorporated herein.

Note: this claim is taken to be anticipated by WO '408 in numbered paragraph 3.

The rejection set forth herein is a back-up to numbered paragraph 3 above, in the event that, claim 29 positively precludes forming a plied yarn from a heat-treated singles yarn. It would have been obvious in the art to directly incorporate a resultant heat-treated yarn (i.e. without forming a plied yarn) into a carpet primary

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backing as loops, because it is well known/conventional to directly incorporate a heat-treated or twist-free yarn into a carpet primary backing as loops as exemplified in the teachings of either Perrig (abstract; example 1) or JP '340 (abstract; figures 1-3 and 5). A preference on whether to use plied wrapped singles yarn or wrapped singles yarn is taken to be well with in the purview of choice in the art, absent any showing of unexpected result. Scott is optionally cited a further evidence that it is known in the art to directly use a heat-setting wrap yarn in forming a cut-pile fabric (figures 1-9).

6. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2300340 A in view of WO 99/14408 A1.

JP '340 discloses a process of making a cut-pile carpet, the process comprises providing a core conjugated strand having an untwisted polyester sliver (1) and filament yarn (2) arranged in parallel to each other; wrapping a filament yarn (3) around the conjugated strand to form a twist-free "trispinning yarn" (6); tufting the yarn into a carpet backing to form a loop-pile carpet (figure 3); and, cutting the loop (figures 1-2 and 4; abstract).

JP '340 does not teach: a) forming a wrapper yarn comprising a blend of heat-activated binder fibers and base synthetic fibers, the melting point of binder fibers is at least 20 °C lower than the melting point of the base fibers; b) heat-setting a resultant wrapped yarn; and, c) dyeing and finishing a resultant carpet. However, it would have been obvious in the art to replace a wrapping filament yarn suggested by JP '340 with a wrapper yarn comprising a blend of heat-activated

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binder fibers and base synthetic fibers, because WO '408 teaches the desirability of forming a wrapper yarn comprising a heat-activated binder fibers or a blend of heat-activated binder fibers and base synthetic fibers for making singles yarns (page 12-22; examples 3-4). As for the recited melting point and heat-setting step, see example 1 on page 6 of the WO '408 patent for the melting temperature range for base fibers and binder fibers and claim 16 of the WO '408 patent for the heat-setting step. As for the recited dyeing and finishing step, see page 4 lines 19-21 and page 6 12-14 of the WO '408 patent.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

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03-14-05